

Table 1

PhageTech

Database

Genome Sequence

>sid|300001 Phage 77 Complete genome 41708 bases 16-10-1998

SEQ ID NO. 10

71 gatcaaaata cttggggaac ggttagggag taaacttcgc gataatttta aaaattcatg tataaccc
141 ctcttataac cattttaagg caggtgatga aatggagatt atagtcgatg aaaatttagt gcttaaaag
211 aaagaaggc tacaagtatt atataaagac atacctagca ataaattaaa agtagttgat ggtttaa
281 ttcaagcagc aaggctacgt gtaatgcttg attacatgtg ggaagacata aaagaaaaag gtgattat
351 tttattttact caatctgaaa aggcgccacc atatgaaagg gaaagaccag tagccaaact atttaatg
421 agagatgctg catatcaaaa aataatcaaa caattatcgg atttattgcc cgaagagaaa gaagacac
491 aaacgccatc tgatgattac ctatgattag taataaatac gttgatgaat atataaattt gtggaaac
561 ggaaagataa ttttaaataa agaaagaatt gatctcttta attatctaca aaaacatata tattcacg
631 atgatgtata ttttgatgaa cagaaaatcg aggattgtat caaattttatt gaaaaatggt attttcca
701 attaccattt caaagggttta tcatagctaa tatatttctt atagataaaa atacagatga agctttct
771 acagaatttg ctattttcat gggacgtgga ggcgggaaaa acggtctaata agtgctattt agtgattt
841 tttctacgcc cttacacgga gttaaagaat atcacatctc cattgttgct aatagtgaag atcaagca
911 aacatcgttt gatgaaatca gaaccgtttt aatggataac aaacgaaata agacgggttaa aacgccaa
981 gctccttatg aagttagtaa agcaaaaaata ataaaccgtg caactaaatc ggttattcga tataacac
1051 caaacacaaa aaccaaaagac ggtggacgtg aggggtgtgt tatttttgat gaaattcatt atttcttt
1121 tcttgaaatg gtaaacgtca aacgtgggtg attaggtaaa aagaaaaata gaagaacgtt ttatataa
1191 actgatgggt ttgttagaga gggttatata gatgcaatga agcacaataa tgcaagtgtt ttaagtgg
1261 aggttaaaaa tagtagattg tttgcttttt attgtaagtt agacgatcca aaagaagttg atgacaga
1331 gacgtgggaa aaggcgaacc caatgttaca taaaccgtta tcagaatacg ctaaaacact gctaagba
1401 attgaagaag aatataacga tttaccattc aaccgttcaa ataagcccga attcatgact aagcgaat
1471 atttgcttga agttgacctt gaaaaagtaa tagcaccatg gaaagaaata ttcgcgacta atagagag
1541 accaaattta gataatcaaa tgtgtattgg tggtttagac tttgcaaaaca ttcgagattt tgcaagtg
1611 gggctattat tccgaaaaaa cgatgattac atttggttag gacattcggt tgtaagacaa gggttttt
1681 atgatgtcaa attagaacct cctattaaag aatgggaaaa aatgggatta ttgaccattg tcatgatg
1751 tgtcattgaa attgaatata tagttgattg gtttttaaag gctagagaaa aatatgggct tgaaaaag
1821 atagctgata attatagaac tgatattgta agacgtgcgt ttgaggatgc tggcataaaa cttgaagt
1891 ttagaaatcc aaaagcaata catggattac ttgcaccacg tatcgataga atgtttgcga aacataac
1961 aatatatgga gacaatcctt tgatgcgttg gtttactaat aatgttgctg taaaaatcaa gccggatg
2031 aataaaagat atatcaaaaa agatgaagtc agacgtaaaa cggatggatt catggctttt gttcacgc
2101 tatatagagc agacgatata gtagacaaag acatgtctaa agcgcttgat gcattaatga gtatagat
2171 ctaatagagg aggtgagaca tgagtattct agaaaagata tttaaaaacta ggaaagatat aacatata
2241 cttgatttag atatgataga agatctatca caacaagcgt atgtgaaacg tttagcgatt gatagttg
2311 ttgaatttgt tgcgcgagct gtcgctcaaa gtcattttta agtattggaa ggtaatagaa ttcaaaag
2381 tgatgtttac tacaagttaa atataaaacc aaatactgac ttatcaagcg atagtttttg gcaacaag
2451 atatataaac taatttatga taacgaggtt ttaatcgtag taagtgcagc caaagaatta cttatcgc
2521 atagctttta cagagaagag tacgctttgt atgatgatat attcaaagat gtaacggtta aagattat
2591 ttatcaacgt actttcacia tgcaaggagg catatattta aagtacaaca acaataaagt gacacact
2661 gtgaaaagtc tattcgaaga ttacgggaaa atattcggaa gaatgatagg tgcacaatta aaaaacta
2731 aataaagagg gattttgaaa tctgcctcta gcgcatatga cgaaaagaat atagaaaaat tacaagcg
2801 cacaataaaa ttattcaata cttttaataa aaatcaacta gcaatcgcgc ctttgataga aggttttg
2871 tatgaggaat tatctaattg tggttaagaat agtaacatgc ctttttctga attgagttag ctaatgag
2941 atgcaataaa aaatgttgcg ttgatgattg gtatacctcc aggtttgatt tacggagaaa cagctgat
3011 ggaaaaaaac acgcttgat ttgagaagtt ctgtttaaca cttttattaa aaaagattca gaacgaat
3081 aacgcgaaac tcataacaca aagcatgtat ttgaaagata caagaataga aattgtcgggt gtgaataa
3151 aagaccact tcaatatgct gaagcaattg acaaacttgt aagttctggt tcatttacaa ggaatgag
3221 gcggtattat ttaggtgaag aacctcagaa caactcctgaa ttagacgaat acctgattac taaaaact
3291 gaaaaagcta acagtgggtg aatgatgaa aaagaaaaag atgaaaaacac tttgaaaggt ggtgatga
3361 attgaaagcg agattaaagg cgatcatcgt tccaacgaag ataaatgggt ttacgaattg cttggtat
3431 attcgacttg tcctaaagat gttttaacac aactagaatt tagtgatgaa gatgttgata ttataatt
3501 ctcaaatggt ggtaacctag tagctggtag tgaaatatat acacatttaa gagctcataa aggcaaaag
3571 aatgttcgta tcacagcaat agcagcaagt gcggcatcgc ttatcgcaat ggctggtgac cacatcga
3641 tgagtccggt tgctagaatg atgattcaca atccttcaag tattgcgcaa ggagaagtga aagatcta
tcattgctgca gaaacattag aacatgtttg tcaaataatg gctgaggcat atgcggttag agctggtg

Table 3

77ORF017 sequence

SEQ ID NO. 4/SEQ ID NO. 18

```

23982 atgacgcataatatagaaaaacgcattaataaattaaaaacttct
1   M T H N I E K R I N K L K T S
23937 ggaaatccaaaattttaaaaagtttagattcagatattcactattta
16  G N P K F K K L D S D I H Y L
23892 ctcaagagatttgaaggtgaaaaaaaccataaagggtttttatcca
31  L K R F E G E K N H K G F Y P
23847 aagtttaaaacaaggagaaatagttttttagatttcggtataaac
46  K F K Q G E I V F V D F G I N
23802 gttaataaagaatttttctaattcacactttgcaatagtgatgaat
61  V N K E F S N S H F A I V M N
23757 aaaaatgattctaatacggaggatatagtaaatgttattccctta
76  K N D S N T E D I V N V I P L
23712 tcctctaagaaaaacaaaaagtttttaaagatgaattttgatttg
91  S S K E N K K Y L K M N F D L
23667 aaatgggagtattatttaagattgttttttaaatttaattagcgcg
106 K W E Y Y L R L F L N L I S A
23622 caaaataattcagctatatataaaagaagttttcgataaaaaatac
121 Q N N S A I L K E V F D K K Y
23577 caaaaaaacaacacagaattcatcactaaagattattttattgaa
136 Q K N N T E F I T K D Y F I E
23532 tttatatctgatagtttagaaattgaaaataaattaaataaaatt
151 F I S D S L E I E N K L N K I
23487 gacagaaacattaataacatagtatcagcaattgataaggtaaaa
166 D R N I N N I V S A I D K V K
23442 aaattaaaaggtaatatgttacgcttgcataaattctttccagccg
181 K L K G N S Y A C I N S F Q P
23397 attagtaagtttcgcataagaaaagttttacccccaaaaaattaaa
196 I S K F R I R K V L P Q K I K
23352 aatccagtaatatagattcttcggatattatgttactgataaataga
211 N P V I D S S D I M L L I N R
23307 attaataataatatattgcagatccctgatataagatga 23269
226 I N N N I L Q I P D I R *

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Physico-chemical parameters of ORF 77ORF017

SEQ ID NO. 18

1 MTHNIEKRIN KLKTSGNPKF KKLDSDIHYL LKRFEGEKNH KGFYPKFKQG EIVFVDFGIN
61 VNKEFSNSHF AIVMNKNSN TEDIVNVIPL SSKENKKYLK MNFDLKWEYY LRLFLNLISA
121 QNNSAILKEV FDKKYQKNNT EFITKDYFIE FIDSLEIEN KLNKIDRNIN NIVSAIDKVK
181 KLKGNYSYACI NSFQPISKFR IRKVLPQKIK NPVIDSSDIM LLINRINNNI LQIPDIR

Number of amino acids: 237
Average molecular weight (Daltons): 27887.38
Mean amino acid weight (Daltons): 117.67
Monoisotopic molecular weight (Daltons): 27869.83
Mean amino acid monoisotopic weight (Daltons): 117.59

Amino acid composition

Acid	Symbol	Number	%	Average % in Swissprot	Acid	Symbol	Number	%	Average % in Swissprot
Ala	A	5	2.11%	7.58%	Cys	C	1	0.42%	1.66%
Asp	D	14	5.91%	5.28%	Glu	E	13	5.49%	6.37%
Phe	F	16	6.75%	4.09%	Gly	G	6	2.53%	6.84%
His	H	4	1.69%	2.24%	Ile	I	29	12.24%	5.81%
Lys	K	33	13.92%	5.95%	Leu	L	19	8.02%	9.42%
Met	M	4	1.69%	2.37%	Asn	N	30	12.66%	4.45%
Pro	P	7	2.95%	4.9%	Gln	Q	6	2.53%	3.97%
Arg	R	8	3.38%	5.16%	Ser	S	17	7.17%	7.12%
Thr	T	5	2.11%	5.67%	Val	V	11	4.64%	6.58%
Trp	W	1	0.42%	1.23%	Tyr	Y	8	3.38%	3.18%

Number of acidic (negative) amino acids (ED): 27 11.39%
Number of basic (positive) amino acids (KR): 41 17.30%
Total charge (KRED): 68 28.69%
Net charge (KR - ED): 14 5.91%
Theoretical pI: 10.01
Total linear charge density: 0.30
Average hydrophobicity: -5.37
Ratio of hydrophilicity to hydrophobicity: 1.41
Percentage of hydrophilic amino acid: 57.81%
Percentage of hydrophobic amino acid: 42.19%
Ratio of %hydrophilic to %hydrophobic: 1.37

77ORF019 sequence

SEQ ID NO. 5/SEQ ID NO. 19

```
39851 atgaacgagcaaataataggaagcatatatacttttagcaggaggt
1   M N E Q I I G S I Y T L A G G
39896 gttgtgctttatttcagttaaagagatttttaggtattttacagat
16  V V L Y S V K E I F R Y F T D
39941 tctaacttacaacgtaaaaaaatcaatttagaacaatatatccg
31  S N L Q R K K I N L E Q I Y P
39986 atatatatttagattgttttaaaaaggctaaaaagatgattggagct
46  I Y L D C F K K A K K M I G A
40031 tatattattccaacagaaacagcatgaatttttagatttttttgat
61  Y I I P T E Q H E F L D F F D
40076 attgaagtctttaataatttagataagcaaagtaaaaaagcgtat
76  I E V F N N L D K Q S K K A Y
40121 gaaaatgttattggatttagacaaatgattaatttatcaaataga
91  E N V I G F R Q M I N L S N R
40166 gttaaggcaatggaagattttaagatgagtttcaacaatgaattt
106 V K A M E D F K M S F N N E F
40211 agtacaaatcagattttttttaatccttcttttgttatggaaaca
121 S T N Q I F F N P S F V M E T
40256 attgctattataaatgaatatcaaaaagatatatcttatttataaa
136 I A I I N E Y Q K D I S Y L K
40301 aatataattaataaaaatgaatgaaaatagagcttataatcatatt
151 N I I N K M N E N R A Y N H I
40346 gatagttttatcacttcagagtaccgacgaaaaataaacgattat
166 D S F I T S E Y R R K I N D Y
40391 aatctttatcttgataaatttgaagaacagtttagtcaaaagttt
181 N L Y L D K F E E Q F S Q K F
40436 aaaataaacagaacttcgataaaaagaaagaattattattaattta
196 K I N R T S I K E R I I I N L
40481 aacaagaggagattttaaata 40501
211 N K R R F K *
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Physico-chemical parameters of ORF 77ORF019

SEQ ID NO. 19

```

1      MNEQIGSIY TLAGGVVLYS VKEIFRYFTD SNLQRKKINL EQIYPIYLDK FKKAKKMIGA
61     YIIPTEQHEF LDFFDIEVFN NLDKQSKKAY ENVIGFRQMI NLSNRVKAME DFKMSFNNEF
121    STNQIFFNPS FVMETIAIIN EYQKDISYK NIINKMNENR AYNHIDSFIT SEYRRKINDY
181    NLYLDKFEEQ FSQKFKINRT SIKERIINL NKRRFK
    
```

Number of amino acids: 216
 Average molecular weight (Daltons): 26026.06
 Mean amino acid weight (Daltons): 120.49
 Monoisotopic molecular weight (Daltons): 26009.34
 Mean amino acid monoisotopic weight (Daltons): 120.41

Amino acid composition

Acid	Symbol	Number	%	Average % in Swissprot	Acid	Symbol	Number	%	Average % in Swissprot
Ala	A	7	3.24%	7.58%	Cys	C	1	0.46%	1.66%
Asp	D	10	4.63%	5.28%	Glu	E	16	7.41%	6.37%
Phe	F	19	8.80%	4.09%	Gly	G	5	2.31%	6.84%
His	H	2	0.93%	2.24%	Ile	I	28	12.96%	5.81%
Lys	K	22	10.19%	5.95%	Leu	L	12	5.56%	9.42%
Met	M	7	3.24%	2.37%	Asn	N	23	10.65%	4.45%
Pro	P	3	1.39%	4.9%	Gln	Q	10	4.63%	3.97%
Arg	R	11	5.09%	5.16%	Ser	S	13	6.02%	7.12%
Thr	T	7	3.24%	5.67%	Val	V	7	3.24%	6.58%
Trp	W	0	0.00%	1.23%	Tyr	Y	13	6.02%	3.18%

Number of acidic (negative) amino acids (ED): 26 12.04%
 Number of basic (positive) amino acids (KR): 33 15.28%
 Total charge (KRED): 59 27.31%
 Net charge (KR - ED): 7 3.24%
 Theoretical pI: 9.52
 Total linear charge density: 0.28
 Average hydrophobicity: -4.84
 Ratio of hydrophilicity to hydrophobicity: 1.37
 Percentage of hydrophilic amino acid: 54.17%
 Percentage of hydrophobic amino acid: 45.83%
 Ratio of %hydrophilic to %hydrophobic: 1.18

77ORF043 sequence

SEQ ID NO. 6/SEQ ID NO. 21

```
29304 atgtattacgaaataggcgaaatcatacgcacaaatattcatggt
1   M Y Y E I G E I I R K N I H V
29349 aacggattcgattttaagctattcatttttaaagggtcatatgggc
16  N G F D F K L F I L K G H M G
29394 atatcaatacaagttaaagatatgaacaacgtaccaattaaacat
31  I S I Q V K D M N N V P I K H
29439 gcttatgtcgtagatgagaatgacttagatatggcatcagactta
46  A Y V V D E N D L D M A S D L
29484 tttaaccaagcaatagatgaatggattgaagagaacacagacgaa
61  F N Q A I D E W I E E N T D E
29529 caggacagactaattaacttagtcatgaaatggtag 29564
76  Q D R L I N L V M K W *
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Physico-chemical parameters of ORF 77ORF043

SEQ ID NO. 21

1 MYEIGEIIIR KNIHVNGFDF KLFILKGHMG ISIQVKDMNN VPIKHAYVVD ENLDLMASDL
61 FNQAIDEWIE ENTDEQDRLI NLVMKW

Number of amino acids: 86
Average molecular weight (Daltons): 10186.68
Mean amino acid weight (Daltons): 118.45
Monoisotopic molecular weight (Daltons): 10180.02
Mean amino acid monoisotopic weight (Daltons): 118.37

Amino acid composition

Acid	Symbol	Number	%	Average % in Swissprot	Acid	Symbol	Number	%	Average % in Swissprot
Ala	A	3	3.49%	7.58%	Cys	C	0	0.00%	1.66%
Asp	D	9	10.47%	5.28%	Glu	E	7	8.14%	6.37%
Phe	F	4	4.65%	4.09%	Gly	G	4	4.65%	6.84%
His	H	3	3.49%	2.24%	Ile	I	11	12.79%	5.81%
Lys	K	6	6.98%	5.95%	Leu	L	6	6.98%	9.42%
Met	M	5	5.81%	2.37%	Asn	N	8	9.30%	4.45%
Pro	P	1	1.16%	4.9%	Gln	Q	3	3.49%	3.97%
Arg	R	2	2.33%	5.16%	Ser	S	2	2.33%	7.12%
Thr	T	1	1.16%	5.67%	Val	V	6	6.98%	6.58%
Trp	W	2	2.33%	1.23%	Tyr	Y	3	3.49%	3.18%

Number of acidic (negative) amino acids (ED): 16 18.60%
Number of basic (positive) amino acids (KR): 8 9.30%
Total charge (KRED): 24 27.91%
Net charge (KR - ED): -8 -9.30%
Theoretical pI: 4.38
Total linear charge density: 0.30
Average hydrophobicity: -2.80
Ratio of hydrophilicity to hydrophobicity: 1.19
Percentage of hydrophilic amino acid: 48.84%
Percentage of hydrophobic amino acid: 51.16%
Ratio of %hydrophilic to %hydrophobic: 0.95

77ORF102 sequence

SEQ ID NO. 7/SEQ ID NO. 23

```
29051 atgagcaacatttataaaaagctacctagtagcagtattatgcttc
1    M S N I Y K S Y L V A V L C F
29096 acagtcttagcgattgtacttatgccgtttctatacttcactaca
16   T V L A I V L M P F L Y F T T
29141 gcatggtcaattgcgggattcgcaagtatcgcaacattcatgtac
31   A W S I A G F A S I A T F M Y
29186 tacaagaatgctttttcaaagaataa 29212
46   Y K E C F F K E *
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Physico-chemical parameters of ORF 77ORF102

SEQ ID NO. 23

1 MSNIYKSYLV AVLCTVLAI VLMPFLYFTT AWSIAGFASI ATFMYYKECF FKE

Number of amino acids: 53
Average molecular weight (Daltons): 6155.42
Mean amino acid weight (Daltons): 116.14
Monoisotopic molecular weight (Daltons): 6151.07
Mean amino acid monoisotopic weight (Daltons): 116.06

Amino acid composition

Acid	Symbol	Number	%	Average % in Swissprot	Acid	Symbol	Number	%	Average % in Swissprot
Ala	A	6	11.32%	7.58%	Cys	C	2	3.77%	1.66%
Asp	D	0	0.00%	5.28%	Glu	E	2	3.77%	6.37%
Phe	F	7	13.21%	4.09%	Gly	G	1	1.89%	6.84%
His	H	0	0.00%	2.24%	Ile	I	4	7.55%	5.81%
Lys	K	3	5.66%	5.95%	Leu	L	5	9.43%	9.42%
Met	M	3	5.66%	2.37%	Asn	N	1	1.89%	4.45%
Pro	P	1	1.89%	4.9%	Gln	Q	0	0.00%	3.97%
Arg	R	0	0.00%	5.16%	Ser	S	4	7.55%	7.12%
Thr	T	4	7.55%	5.67%	Val	V	4	7.55%	6.58%
Trp	W	1	1.89%	1.23%	Tyr	Y	5	9.43%	3.18%

Number of acidic (negative) amino acids (ED): 2 3.77%
Number of basic (positive) amino acids (KR): 3 5.66%
Total charge (KRED): 5 9.43%
Net charge (KR - ED): 1 1.89%
Theoretical pI: 8.18
Total linear charge density: 0.13
Average hydrophobicity: 10.81
Ratio of hydrophilicity to hydrophobicity: 0.40
Percentage of hydrophilic amino acid: 28.30%
Percentage of hydrophobic amino acid: 71.70%
Ratio of %hydrophilic to %hydrophobic: 0.39

77ORF104 sequence

SEQ ID NO. 8/SEQ ID NO. 25

34393 atggtaaccaaagaatttttaaaaactaaacttgagtgttcagat

1 M V T K E F L K T K L E C S D

34438 atgtacgctcagaaactcatagatgaggcacagggcgatgaaaat

16 M Y A Q K L I D E A Q G D E N

34483 aggttgtagcagacctatctatccaaaaacttgacagaacgcataca

31 R L Y D L F I Q K L A E R H T

34528 cgccccgctatcgctcgaatattaa 34551

46 R P A I V E Y *

Physico-chemical parameters of ORF 77ORF104

SEQ ID NO. 25

1 MVTKEFLKTK LECSDMYAQK LIDEAQGDEN RLYDLFIQKL AERHTRPAIV EY

Number of amino acids: 52
Average molecular weight (Daltons): 6193.13
Mean amino acid weight (Daltons): 119.10
Monoisotopic molecular weight (Daltons): 6189.12
Mean amino acid monoisotopic weight (Daltons): 119.02

Amino acid composition

Acid	Symbol	Number	%	Average % in Swissprot	Acid	Symbol	Number	%	Average % in Swissprot
Ala	A	4	7.69%	7.58%	Cys	C	1	1.92%	1.66%
Asp	D	4	7.69%	5.28%	Glu	E	6	11.54%	6.37%
Phe	F	2	3.85%	4.09%	Gly	G	1	1.92%	6.84%
His	H	1	1.92%	2.24%	Ile	I	3	5.77%	5.81%
Lys	K	5	9.62%	5.95%	Leu	L	6	11.54%	9.42%
Met	M	2	3.85%	2.37%	Asn	N	1	1.92%	4.45%
Pro	P	1	1.92%	4.9%	Gln	Q	3	5.77%	3.97%
Arg	R	3	5.77%	5.16%	Ser	S	1	1.92%	7.12%
Thr	T	3	5.77%	5.67%	Val	V	2	3.85%	6.58%
Trp	W	0	0.00%	1.23%	Tyr	Y	3	5.77%	3.18%

Number of acidic (negative) amino acids (ED): 10 19.23%
Number of basic (positive) amino acids (KR): 8 15.38%
Total charge (KRED): 18 34.62%
Net charge (KR - ED): -2 -3.85%
Theoretical pI: 5.03
Total linear charge density: 0.38
Average hydrophobicity: -5.81
Ratio of hydrophilicity to hydrophobicity: 1.47
Percentage of hydrophilic amino acid: 53.85%
Percentage of hydrophobic amino acid: 46.15%
Ratio of %hydrophilic to %hydrophobic: 1.17

77ORF182 sequence

SEQ ID NO. 9/SEQ ID NO. 27

```
29268 atgttcaatataaaaacgaaaaacggaggaagtcaagatgtattac
1   M F N I K R K T E E V K M Y Y
29313 gaaataggcgaaatcatacgcaaaaatattcatgttaacggattc
16  E I G E I I R K N I H V N G F
29358 gattttaagctattcatttttaaaagggtcatatgggcatatcaata
31  D F K L F I L K G H M G I S I
29403 caagttaaagatatgaacaacgtaccaattaaacatgcttatgtc
46  Q V K D M N N V P I K H A Y V
29448 gtagatgagaatgacttagatatggcatcagacttatttaaccaa
61  V D E N D L D M A S D L F N Q
29493 gcaatagatgaatggattgaagagaacacagacgaacaggacaga
76  A I D E W I E E N T D E Q D R
29538 ctaattaacttagtcatgaaatggtag 29564
91  L I N L V M K W *
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Physico-chemical parameters of ORF 77ORF182

SEQ ID NO. 27

1 MFNIKRKTEE VKMYEIGEI IRKNIHVNGF DFKLFILKGH MGISIQVKDM NNVPIKHAYV
61 VDENDLDMAS DLFNQAIDEW IEENTDEQDR LINLVMKW

Number of amino acids: 98
Average molecular weight (Daltons): 11691.50
Mean amino acid weight (Daltons): 119.30
Monoisotopic molecular weight (Daltons): 11683.84
Mean amino acid monoisotopic weight (Daltons): 119.22

Amino acid composition

Acid	Symbol	Number	%	Average % in Swissprot	Acid	Symbol	Number	%	Average % in Swissprot
Ala	A	3	3.06%	7.58%	Cys	C	0	0.00%	1.66%
Asp	D	9	9.18%	5.28%	Glu	E	9	9.18%	6.37%
Phe	F	5	5.10%	4.09%	Gly	G	4	4.08%	6.84%
His	H	3	3.06%	2.24%	Ile	I	12	12.24%	5.81%
Lys	K	9	9.18%	5.95%	Leu	L	6	6.12%	9.42%
Met	M	6	6.12%	2.37%	Asn	N	9	9.18%	4.45%
Pro	P	1	1.02%	4.9%	Gln	Q	3	3.06%	3.97%
Arg	R	3	3.06%	5.16%	Ser	S	2	2.04%	7.12%
Thr	T	2	2.04%	5.67%	Val	V	7	7.14%	6.58%
Trp	W	2	2.04%	1.23%	Tyr	Y	3	3.06%	3.18%

Number of acidic (negative) amino acids (ED): 18 18.37%
Number of basic (positive) amino acids (KR): 12 12.24%
Total charge (KRED): 30 30.61%
Net charge (KR - ED): -6 -6.12%
Theoretical pI: 4.76
Total linear charge density: 0.33
Average hydrophobicity: -3.89
Ratio of hydrophilicity to hydrophobicity: 1.28
Percentage of hydrophilic amino acid: 51.02%
Percentage of hydrophobic amino acid: 48.98%
Ratio of %hydrophilic to %hydrophobic: 1.04